

1. A method to wirelessly communicate data over a plurality of cellular channels, comprising:  
requesting an allocation of preferably adjacent cellular frequency channels from a mobile station to a base station;  
5 allocating available frequency channels in response to the request from the mobile station; and  
bonding the available frequency channels to communicate data.

- 10 2. The method of claim 1, further comprising communicating on a short-range radio channel.
3. The method of claim 2, wherein the short-range radio channel is Bluetooth or WLAN (802.11x).
4. The method of claim 2, further comprising bonding the short-range radio channel with the cellular frequency channels to increase bandwidth.
- 15 5. The method of claim 1, wherein the cellular channels comprise an uplink band around 890 - 915 MHz and a downlink band around 935 - 960 MHz.
6. The method of claim 5, further comprising bonding over two adjacent channels.
7. The method of claim 5, wherein each band is divided into 124 pairs of  
20 frequency duplex channels with 200 kHz carrier spacing using Frequency Division Multiple Access (FDMA).
8. The method of claim 5, further comprising:  
splitting the 200 kHz radio channel into a plurality of time slots;

bonding the time slots; and

transmitting and receiving data in the bonded time slots.

9. The method of claim 5, further comprising splitting the 200kHz radio channel using time division multiple access (TDMA).

5 10. The method of claim 5, further comprising transmitting cellular packet data conforming to one of the following protocols: cellular digital packet data (CDPD) (for AMPS, IS-95, and IS-136), General Packet Radio Service (GPRS) and EDGE (Enhanced Data for Global Evolution).

11. A reconfigurable processor core, comprising:

10 one or more processing units;  
a long-range transceiver unit coupled to the processing units, the long-range transceiver unit communicating over a plurality of cellular frequency channels;  
a short-range transceiver coupled to the processing units; and  
means for bonding a plurality of channels.

15 12. The processor core of claim 11, wherein the reconfigurable processor core includes one or more digital signal processors (DSPs).

13. The processor core of claim 11, wherein the reconfigurable processor core includes one or more reduced instruction set computer (RISC) processors.

20 14. The processor core of claim 11, further comprising a router coupled to the one or more processing units.

15. The processor core of claim 11, wherein the short-range transceiver communicates over a short-range radio channel, further comprising means for

bonding the short-range radio channel with the cellular frequency channels to increase bandwidth.

16. The processor core of claim 11, wherein the cellular channels comprise an uplink band around 890 - 915 MHz and a downlink band around 935 - 960 MHz.
17. The processor core of claim 11, further comprising means for bonding over two adjacent cellular channels to interleave the channels.
18. The processor core of claim 11, further comprising:
- means for splitting the 200 kHz radio channel into a plurality of time slots;
  - means for bonding the time slots; and
  - means for transmitting and receiving data in the bonded time slots.
19. The processor core of claim 11, further comprising means for splitting the 200kHz radio channel using time division multiple access (TDMA).
20. The processor core of claim 11, further comprising means for transmitting cellular packet data conforming to one of the following protocols: cellular digital packet data (CDPD) (for AMPS, IS-95, and IS-136), General Packet Radio Service (GPRS) and EDGE (Enhanced Data for Global Evolution).